

August 2008



Sustainable World

NMHC helps apartment
firms find the place
where smart business
and the environment
live in harmony.

Hidden Assets

As cities go green, NMHC highlights the apartment industry's commitment to sensible sustainability.

Right now, it seems like every industry wants to paint itself green. Fortunately for multifamily leaders, presenting an accurate picture of how the apartment industry fights climate change isn't difficult.

Just look at the facts. According to U.S. Department of Energy per-person data, people who live in single-family homes use 54 percent more energy than their multifamily-dwelling counterparts. That's partly because apartment developers tend to build denser housing with smaller, more efficient living units. Apartment communities are also often built in areas that are closer to transit and jobs—key elements of the walkable, sustainable smart growth movement.

Experts say the environmental case for apartments is obvious. "Multifamily housing uses less energy than single-family detached housing," says Reid Ewing, a professor at the University of Maryland's National Center for Smart Growth and lead author of *Growing Cooler: The Evidence on Urban Development and Climate Change*. "Multifamily is inherently green, because it goes hand-in-hand with higher density."

The National Multi Housing Council

(NMHC) is making sure that message gets heard. The Washington, D.C.-based group has been encouraging its membership to highlight the industry's green aspects, while using the momentum of the green movement to fight the NIMBYism that high-density development can face. In Congress, the organization has been educating policymakers on the fact that apartments are a sustainable form of housing that's worthy of energy efficiency tax credits. And the organization has contributed to the creation of a new building standard with specific guidance for achieving cost-effective sustainability in apartment properties.

One reason why apartments are part of the solution to global warming is because they help residents shrink their individual



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DOUG BIBBY, NMHC

carbon footprints. Ewing estimates that denser, mixed-used development generates 20 percent to 40 percent fewer vehicle miles traveled than typical suburban sprawl. "One of the ways we can get our carbon dioxide levels down and stabilize our climate's trajectory is to build more compact development," Ewing says. "Compact development is greener and more carbon-neutral than sprawl because it generates fewer and shorter auto trips. But it also tends to lend itself to mixed-use developments, which are inherently walkable. Both of those characteristics go hand-in-hand with multifamily housing."

In fact, Ewing's research found that if sprawl development continues at its current pace, people will drive more, nullifying any gains from more efficient vehicles or low-carbon fuels. Ewing's book concluded that people living in compact, green, walkable neighborhoods contribute as much to fighting global warming as those who drive hybrids, but live in outlying areas.

But while multifamily's sustainable aspects are real, it doesn't always get credit for them. That's because widely used green benchmarks have focused on other structure types. The U.S. Green Building Council's LEED program and the Green Building Initiative's Green Globes Criteria were designed with commercial buildings in mind, while other standards are aimed at single-family homes. The unique, somewhere-in-between design of multifamily buildings often falls through the cracks.

Courtesy Jonathan Rose Cos.

Will People Pay More to Live Green?

While marketers have latched onto the green movement, research shows they may be ahead of their target audience: consumers. "If you listen to marketing and the media, you would think that consumers are very informed about or interested in being green," says Andy Smith, corporate accounts manager at Chapel Hill, N.C.-based research firm Yankelovich. "But actually, it seems that's not the case."

In its "Going Green" survey

released in summer 2007, the firm found that only about one-third of consumers were more concerned about the environment than a year earlier. And one-quarter felt they couldn't make a difference in environmental change. "The green movement is still a niche opportunity," Smith says. (Of course, these results pre-date the \$4-per-gallon gas of summer 2008.)

The one exception? The so-called echo boomers, whose

biggest wave (those born after 1989) will start to hit the apartment market soon. "They show an overwhelming affinity for

green living across the board," says Shyam Kannan, director of research at Washington, D.C.-based research firm RCLCO.



Metro Green Apartments by Jonathan Rose Cos. will feature a rain garden and plaza.

That will change with the upcoming publication of the National Green Building Standard (NGBS). NGBS is the first and only American National Standards Institute (ANSI)-approved green building standard for residential properties. It was co-sponsored by the National Association of Home Builders (NAHB) and the International Code Council (ICC). Originally intended to cover only one- and two-family dwellings, at NMHC's request, the NGBS was expanded to include multifamily.

The standard was developed by a wide range of stakeholders—nearly 50 in all—including NMHC as well as architects, consumers, building officials and representatives from government agencies and the environmental community.

Ron Nickson, NMHC's vice president of building codes, says "the standard fills a void for both apartment developers and local officials. It offers both groups a credible, third-party endorsed standard that is appropriate for multifamily and can serve as an alternative to LEED and other green rating systems that don't specifically address apartment construction. It is also the only standard written in building code language, which will make it easier for developers to follow and local jurisdictions to adopt."

The pressure to build greener buildings is coming from all over. Take, for instance, the U.S. Conference of Mayors, a national coalition of cities. The organization's Climate Protection Agreement, already signed by more than 600 cities, advocates stan-

"They are willing to pay more for transit, willing to pay more to live in a walkable community, and pay more to live in a community with a diversity of product types, housing styles, and even people."

But according to RCLCO, this group won't start entering the apartment market in significant numbers until 2009 and won't have significant spending power until 2012. That means even if consumers say they're willing to pay for green in the future, they aren't opening their wallets too wide just yet.



Greenbridge, in King County, Wash., is dense: 1,000 housing units on 95 acres.

dards that would require new buildings to reduce their carbon footprints by 60 percent just two years from now. Those requirements would ratchet up the reduction percentage to 70 percent in 2015 and would call for carbon-neutral buildings by 2030.

Yet, apartment executives worry whether such initiatives are cost-effective or even technically feasible for multifamily. After all, even with the most efficient systems in place, apartment owners can't mandate how much energy residents use inside their apartments. "Then there's the problem that while consumers say they love green, they aren't yet willing to pay for it," says Doug Bibby, NMHC's president.

Of course, some cities already recognize the unique attributes of multifamily and are working with the industry to promote sustainability without sacrificing profitability. Washington, D.C., for instance, now requires that all commercial buildings of 50,000 square feet or more meet LEED standards by 2012. But it doesn't apply those same criteria to apartment buildings.


"Multifamily has slightly different elements, so we don't require LEED certification there," explains Harriet Tregoning, director of planning for the District of Columbia. Instead, D.C. requires residential projects to follow the Green Communities Criteria, a self-certification program that was developed for affordable housing. "You don't need the third-party certification, so it's more cost-effective and makes it more feasible for multifamily developers to meet those requirements," she says. The District also

provides grants for funding the integrated design charrettes required by the program.

Other municipalities are creating incentives that recognize the environmental advantages of denser development. King County, Wash., for instance, has implemented land-use policies that drive development to urban centers by limiting what can be built in outlying areas. Developers can purchase cheaper, outlying rural development rights and apply them inside urban centers.

"You can buy a development right from a private landowner in the rural area where we're trying to limit growth, and then turn around and use it in the urban area to get a higher density for your project," says Karen Wolf, senior policy advisor to the King County executive. "We want to make good on our promise to make it easier to develop in the urban area." The county also gives gross density approvals, so unit count isn't limited if a portion of a given site is deemed unusable.

It's that kind of creative thinking between municipalities and developers that the apartment industry needs to encourage by touting its green advantages and getting credit for the green attributes that it already exhibits. Doing so should let apartment developers help the environment, while creating housing that makes financial sense.

"We have an opportunity right now, if we keep speaking with one voice, and use the facts, to show that multifamily housing is innately green," Bibby says. "I believe in wearing people down with the truth. Fortunately, the truth is on our side." 

Payback Time

NMHC studies the effort and money required to meet different levels of energy-efficiency improvements.

As concern about climate change increases, lawmakers across the country are proposing legislation to reduce greenhouse gas emissions and energy consumption that could affect the apartment industry. The policies are being introduced everywhere from the federal to the local level and can require apartment properties to exceed existing energy-efficiency requirements by up to 50 percent.

At the federal level, a bill that passed the U.S. House of Representatives in summer 2007 (H.R. 3221), required improvements of 30 and 50 percent beyond code requirements. Similar language was contained in the Climate Security Act (S. 2191). This legislation failed to advance in the Senate, but it is widely considered to be a starting point for deliberations in Congress next year. Yet another House bill (H.R. 6186) was introduced in June that contains language about exceeding code requirements for energy efficiency.

Yet, in their eagerness to help the environment, policymakers may be overlooking two major obstacles: technology limitations and expense. A recent study commissioned by the National Multi Housing Council (NMHC) and National Apartment Association (NAA) finds that the proposed efficiency standards are rarely cost-effective for developers, and some are nearly impossible to achieve with today's technology.



"While everything does come down to dollars and cents, sometimes there are technological limitations that make huge efficiency leaps impossible, regardless of money spent."

EILEEN LEE, NMHC

"While everything does come down to dollars and cents, sometimes there are technological limitations that make huge efficiency leaps impossible," says Eileen Lee, vice president of environment for NMHC.

The study—which was also supported by the National Association of Realtors, the Institute of Real Estate Management, and the CCIM Institute—was conducted by independent consulting firm Newport Partners LLC.

For its research, Newport selected three cities in different climate zones: Houston (cooling dominated), Chicago (heating dominated), and Atlanta (mixed climate). The researchers then conducted energy simulations using a four-story building with 32 apartments of about 1,000 square feet each.

Through extensive modeling, Newport looked at what would be needed to achieve 15, 30 and 50 percent increases beyond the current ASHRAE 90.1 standard. While upgrades to walls, roofs and floors are usually the first items targeted, Newport found that these yielded only modest gains. For more significant improvements, upgrades to heating and cooling systems were needed.

In Chicago and Houston, higher efficiency, conventional heating and cooling equipment made it possible to reach the 15-percent improvement target. But in Atlanta, a ground source heat pump was needed to reach that benchmark, at a cost of up to \$8,000 per apartment unit. The payback time period on the improvements ranged from 16 years to 25 years.

While tolerance for payback periods is an individual business decision, arguments have been made that anywhere from three to 10 years is acceptable; the estimated payback time for the Atlanta example far exceeds those parameters. "It's really out of the acceptable range for any firm," says Paula Cino, NMHC director of energy and environment.

Achieving the 30 percent increases in Houston and Chicago also required a ground source heat pump, and none of the improvements simulated could achieve the 50 percent goal. But even if it were possible to achieve a 50 percent improvement over current code, it doesn't necessarily make sense to do so, Cino says.

That's because ASHRAE 90.1 does not address all of a building's energy use. It doesn't regulate lighting within dwellings,



Localities want greener apartment buildings like this one, but multifamily firms must pay attention to payback time.

water heating or appliance energy usage, for example. So even if efficiency were improved by the targeted amounts, an apartment building's total energy use might not decrease all that much.

"Thirty percent code improvement does not represent 30 percent total improvement in energy efficiency," Cino says. "You're really forcing a property owner to spend a lot of time and money on specific building systems where you might not get the best bang for your buck."

Another problem for builders and owners is that they shoulder the added costs while residents enjoy the savings from improvements in energy efficiency. The money would be a challenge to recover through higher



"The majority of a building's energy use is associated with plug load, which comes from lighting, computers, elevators, and more, and is determined more by the building's users."

RON NICKSON, NMHC

rent because of competition with lower-cost, older buildings. "That's one of the things that separates multifamily from single-family," says Mark Nowak, senior member of Newport Partners. While one person puts in the costs up front, he says, someone else receives the benefits.

As an alternative to a codes-based approach to energy conservation driven by requirements, Lee says tax incentives at the local, state, and federal level may be more of a factor in influencing the development of buildings that exceed the minimum standards of building codes. She also says technical assistance is useful from federal agencies and local utilities in determining what upgrades are appropriate for an existing property.

NMHC is also concerned that a federal tax credit passed in the 2005 Energy Policy Act is not adequate in helping property owners meet standards proposed for lighting, HVAC systems, core, and shell. Lee says the Council has asked to have the amount raised from \$1.80 per square foot to \$2.25, but it's unlikely to be altered. Unless Congress acts, the credit will expire at the end of 2008.

"If the goal is to improve efficiency, you need to include some kind of incentive to reach that," Cino says. 🌱

Experiments in Energy Efficiency

After running hundreds of computerized building simulations in the past year, Ron Nickson, vice president of building codes for NMHC and the National Apartment Association, knows which design and construction decisions will—and won't—save energy and money at multifamily properties.

Building design, including the specification of materials and the selection of HVAC systems, is the key to determining the performance of a building, he says. Not every property will get the same boost in performance by using triple-glazed windows and higher R-value insulation. The savings vary from region to region and require an analysis of performance and cost that Nickson has pioneered in his study of multifamily building performance.

The payback period is an important issue for Nickson, who shakes his head at arbitrary energy-reduction figures. "Certain legislative proposals that specify a 30 percent or 50 percent reduction in building energy use as compared with current energy code levels within the next decade, or even zero energy use by 2030, sound good but may not be achievable within what we consider to be an acceptable cost of construction."

"The numbers that people throw around often have little or no validity," he says. "These people promoting all these savings haven't done a single calculation to determine how they could get a new building to meet those theoretical targets."

Reducing a structure's energy usage requires an understanding of how a building works and an

appreciation for the climate in which it operates. The easiest and smartest design in just about any climate? Choose a long, rectangular-shaped structure with an east/west orientation and windows on the northern and southern exposures. You'll reduce your energy load by as much as 23 percent in a warm climate such as Miami, depending on your choice of windows. Upgrade your windows from single- to double-pane in that city, and you'll trim your energy load by another seven percent.

As critical as design and construction decisions are, though, they aren't the only factor affecting a building's energy efficiency. "The building envelope—the walls, the windows, and the roof—only represents one-third of a building's total energy load. Those components are the only ones that are controlled by the energy code," Nickson explains. "The majority of a building's energy use is associated with plug load, which comes from lighting, computers, elevators, and more and is determined more by the building's users and their consumption patterns and not the developer."

Yet much of the emphasis on reducing a building's energy usage by a given percent has been on changing the building code, which will have an important—but limited—impact, Nickson notes. "People have been talking about the building's total energy load when proposing usage reductions," he says. For such measures to truly be effective at conserving energy and saving the planet, "we need to get the relationship straight, and no one is doing that yet."

Q&A

Laramar Group, LLC

Q: How did Laramar get involved in sustainability?

A: Laramar has been following 'green' practices for many years, including energy-efficient lighting retrofits and the installation of low-flow water devices. These practices have proven both good for the environment and good for our properties' financial performance. Several years ago, we expanded our green efforts by looking for ways to bring sustainability into our operations, purchasing, and construction functions. We formed a 'Green Team' which included members from Laramar's operations, maintenance, construction, purchasing, and asset management departments. This group, which has met regularly for more than a year, has identified numerous green opportunities that have been implemented across Laramar's national portfolio.

Q: What one word sums up your company's experience in sustainable practices thus far?

A: Achievable. We've learned that by assembling a talented group of people and getting that team focused on a shared goal, a vision can spread across an organization. Many of Laramar's best sustainable ideas come directly from our property-level staffs. The Green Team then takes these ideas, researches them, and develops the plans to implement them throughout our portfolio.

Q: What have been the greatest benefits to your company?

A: The green programs implemented by Laramar have shown a return on investment that can be measured in many ways. There is, of course, an environmental benefit, in that all of these programs reduce the burden we put on the earth's resources. Second, many of our green initiatives have excellent financial paybacks. Retrofitting to energy-efficient lighting in all common areas has a payback of two years or less, depending on the fixtures and bulbs selected. A two-year payback is the same as a 50 percent ROI, which is outstanding for any investment. Additionally, our employees derive satisfaction from working for a company that is envi-

ronmentally forward-thinking. Finally, our residents and investors both value Laramar's green efforts. We have received significant positive feedback from our residents that is translating into higher closing ratios and higher renewal ratios. Our investors are also encouraging Laramar to continue pushing the green envelope.

"One of the biggest surprises has been the sheer amount of green opportunities available."

Q: What surprised you about going green?

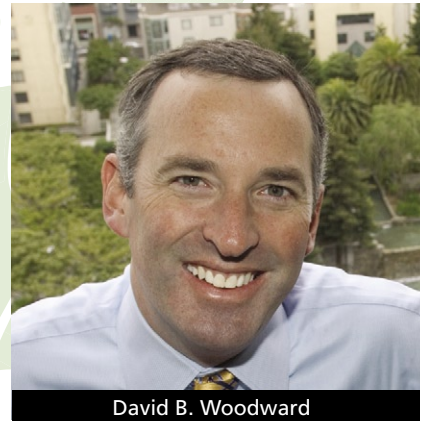
A: One of the biggest surprises has been the sheer amount of green opportunities available. When the Laramar Green Team was first formed, we looked at lighting, water, maintenance, and cleaning supplies. But at every meeting, the number of green ideas keeps growing: recycled carpet, urban car-share programs, drought-resistant plants, saving paper by putting more documents and transactions online, employee mass-transit subsidies and more.

Q: What do you think is your company's best example of going green?

A: The car-share program we've implemented at our urban properties. Residents can check out a car from our garage for several hours to several days and drop it off at a car-share garage anywhere in the city. This program has empowered many of our residents to sell their cars, save money, and enjoy the freedom of not having to deal with a car in a crowded city.

Q: What advice would you give to a multifamily firm considering green building or other sustainability practices?

A: Just get started. Too often people and companies are overwhelmed by all of the press and hype around sustainability. Pick a



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The Laramar Group, LLC, is a fully-integrated real estate investment and management company, with corporate headquarters in Chicago and property management headquarters in Denver. With a consistent national operating platform, Laramar is an industry leader in multifamily investment, acquisition, renovation, and management.

few easy things to start with, such as lighting or low-flow-water devices. Form a Green Team composed of people from different departments and regions. You'll be amazed at how many ideas will flourish and how quickly green will become part of your culture.

Q&A

UDR, Inc.

Q: How did you get involved in sustainability?

A: I was one of the first participants in the ENERGY STAR program, and received a Partner of the Year award in 1999. My involvement in sustainability and energy management began over 14 years ago and includes both commercial and residential real estate. The multifamily sector is unique and rewarding in that improved efficiency can result in dramatic savings due to the unit density involved.

ones up to new standards of excellence. Finally, achieving internal returns, when the most immediate monetary benefit goes to residents, has been an interesting test.

Q: What have been the greatest benefits?

A: The knowledge that what we are doing is making a measurable difference in saving energy, reducing costs and improving our communities. It has been gratifying to see our residents get excited about embracing

“At UDR, we view sustainability as a work in progress. We are continually striving to improve, refine and expand our programs.”

Q: What one word sums up your company's experience in sustainable practices thus far?

A: Integrated.

Q: What makes you say that?

A: At UDR, our efforts include not just operations but new construction and redevelopment. It's a team approach that involves our management, associates, residents and vendors every step of the way. We approach everything with the idea of optimizing all of the individual components and processes and integrating them into smooth, functioning, streamlined programs. The goal is to produce both ROI and ROV. By ROV, I mean a "Return on Values" -- which collectively reinforces UDR's values, based on a foundation of integrity and building to sustainable, profitable growth.

Q: What have been the greatest challenges for your company as you pursue more sustainable practices?

A: Finding architects, mechanical, electrical and plumbing professionals who not only understand sustainability, but how it applies to a multifamily living environment has been an ongoing challenge. Green knowledge and experience is needed in order to engineer value into new developments while meeting the unique challenges of bringing existing

green initiatives. For many, it is the first time that they have been afforded a real opportunity to participate in efforts and programs that have previously been available only to homeowners.

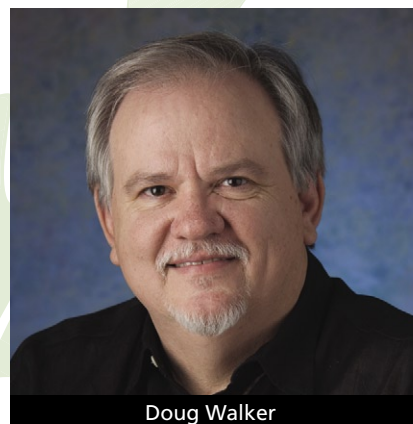
Q: What surprised you about going green?

A: We recently conducted a survey of over 64,000 residents to determine their opinions on sustainability and were surprised and pleased to learn that 80% of them feel that living in a community that is environmentally conscious and progressive is very important to them.

Q: What do you think is your company's best example of going green?

A: It comes from our President & CEO, Tom Toomey. It's not just one thing but a comprehensive A-to-Z vision that goes beyond simple recycling and retrofitting. UDR's approach takes into account everything from community planning, architecture and landscaping to energy efficient appliances, lighting, water conservation and waste management.

Q: What other green practices, programs, products or initiatives are you considering implementing at your company in the future?



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UDR, Inc. (NYSE:UDR), an S&P 400 company, is a leading multifamily real estate investment trust (REIT) with a demonstrated performance history of delivering superior and dependable returns by successfully managing, buying, selling, developing and redeveloping attractive real estate properties in targeted U.S. markets. For over 35 years, UDR has delivered long-term value to shareholders, the best standard of service to residents and the highest quality experience for associates.

A: At UDR, we view sustainability as a work in progress. We are continually striving to improve, refine and expand our programs. We have a major project in the works (www.vitruvianpark.com) that we believe will set a new multifamily standard as well as challenge owners across the country to become actively engaged in greening their properties.

Q&A

Local Initiatives Support Corporation

Q: How did you get involved in sustainability?

A: LISC's focus on green has evolved as our broader strategic agenda of Building Sustainable Communities has come to the forefront. It's not that we weren't involved in green development previously. We had been funding a wide variety of green projects around the country for a number of years. It's just that our strategy means we view "sustainability" through a much more holistic lens than many other organizations

planning and implement those plans in a way that leads to a healthier, more stable future. It also speaks to our view of our ongoing role in green development. There are always new strategies and methods for us to consider, and innovative ways for us to think about financing projects. Part of our job is to make sure that the strategies are cost-effective and durable. It's up to us to take that broad, comprehensive look to help identify what makes the most sense for the projects in which we are involved.

"It is really gratifying to know that by employing green and sustainable practices, we are building truly affordable developments that stabilize increasing energy prices and operational costs."

do. We think a community is sustainable when it is a healthy, vibrant, engaging place to live, work, do business and raise families. Our goal is to help low-income residents reverse the decline in disinvested communities and connect them to the economic mainstream.

So, for us, green isn't a stand-alone thing. It is interwoven into our five objectives for Building Sustainable Communities: expanding investment in housing and other real estate; increasing family income and wealth; stimulating economic development; improving access to quality education; and supporting healthy environments and lifestyles. We know we could go out and trumpet each and every one of the green homes, commercial facilities and schools in our portfolio. But for us, if we haven't actually changed people's lives for the better then we haven't really achieved sustainability.

Q: What one word sums up your company's experience in sustainable practices thus far?

A: Comprehensive. First, green is part of our comprehensive work to help low-income communities do quality-of-life

Q: What have been the greatest challenges for your company as you pursue more sustainable practices?

A: Because we work primarily with nonprofit partners focused on community revitalization, funding for green opportunities is often more challenging than it is in other types of development. Part of our work is to help our development partners identify new sources of funding to cover their incremental costs, in addition to providing funding ourselves. At the same time, we need to make sure they understand that sustainable practices don't always have to be more expensive. While there can be larger upfront costs, if you have a good design team on board the payback period can be quite reasonable.

Q: What have been the greatest benefits?

A: It is really gratifying to know that by employing green and sustainable practices, we are building truly affordable developments that stabilize increasing energy prices and operational costs. We are also helping address indoor air quality issues and therefore mitigating the impact of respiratory ailments on the populations we serve.



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Local Initiatives Support Corporation (LISC) combines corporate, government and philanthropic resources to help community-based organizations revitalize distressed neighborhoods. Since 1980, LISC has raised more than \$8.6 billion to build or rehabilitate more than 230,000 affordable homes and develop 32 million square feet of retail, community and educational space nationwide. New York-based LISC supports Low-Income Housing Tax Credit and New Markets Tax Credit development through its affiliate, National Equity Fund, Inc., (NEF).

Having invested in green development for a number of years, we are now really seeing the impact on the health and welfare of individual residents, and the communities in which they live.

New Standard

The National Green Building Standard promises a multifamily-friendly solution to sustainable construction.

Multifamily developers looking to go green have long been challenged by the imperfect fit between most green building programs and their properties. But multifamily firms will soon benefit from the debut of the National Green Building Standard (NGBS), a code-friendly approach that was created with the help of the apartment industry to address the persistent challenges faced by residential builders and developers interested in building more sustainably.

Doing so has been particularly difficult for multifamily firms. Existing local, regional, and national green building programs often lack guidance on multifamily construction. Firms struggle with the details of what it means to be green in a multifamily building while somehow ensuring projects meet resident, investor, and community

expectations.

The National Green Building Standard promises solutions to those problems. The standard, which is being shepherded through the American National Standards Institute (ANSI) process by the National Association of Home Builders, covers a multitude of housing types. It includes single-family, of course, but thanks to the efforts of the National Multi Housing Council (NMHC) and the National Apartment Association, the NGBS also incorporates multifamily and mixed-use projects. Why go through ANSI, which requires public comment and more, for the standard? Viability and acceptance. ANSI approval indicates that the development process for this green standard was transparent, open to the public, and involved a diverse group of stakeholders: builders, developers, manufacturers, building code officials, and more.

With the introduction of the NGBS, expected in 2008, localities and builders will have an alternative to the Green Building Initiative's Green Globes criteria or the U.S.

Green Building Council's Leadership in Energy and Environmental Design (LEED) rating system. Initially created for commercial buildings, LEED has expanded to include multifamily, single-family, and neighborhood developments. As cities and suburbs have become concerned about climate change, many have considered requiring new structures to meet LEED requirements. That worries many in the industry. "LEED was intended to be voluntary and aspirational," explains Paula Cino, NMHC's director of energy and environment. "This idea of imposing LEED on everybody is at odds with its initial purpose."

Enter the NGBS, which is the only standardized set of green building guidelines that is compatible with International Code Council building codes. Like LEED, it allows projects to earn points by including features such as energy-efficient appliances, water-conserving landscaping, or recycled materials. The NGBS differs from LEED, however, by requiring that projects achieve minimum point totals in all categories, including land use, resource efficiency, energy efficiency, water conservation, indoor air quality, and owner/resident education. This lends predictability and certainty to

Arctic Effect

Howard Ruby argues for sustainable practices after traveling to the ends of the earth.

Howard Ruby became passionate about fighting global warming while photographing polar bears in the Arctic. As chairman and founder of Oakwood Worldwide, a leading provider of temporary housing, he is committed to reducing the company's greenhouse gas emissions by 35 percent over the next seven years. Oakwood also educates its residents about reducing energy consumption and has a program where associates teach elementary students about global warming.

What savings have you achieved from going green?

HR: A simple change we made as a com-

pany was the decision to switch from using incandescent bulbs in our apartments to compact fluorescent lamp bulbs. This retrofit was an expense to implement. However, by doing so, we saved three times as much on an annualized basis and reduced our corporate carbon footprint by more than 1,000 tons of annual carbon emissions.

How much did you have to invest to achieve those savings?

HR: All expenses incurred to reduce our corporate carbon footprint will be realized in savings over 15 months.

What can the apartment industry learn from your experience?

HR: Going green is also a tremendous morale builder for employees, and it provides an excellent ROI. Being eco-responsible is starting to impact the way prospective clients search for housing: they are looking for "green" buildings, and they want to work with companies that are environ-




mentally responsible.

How can apartment companies get their residents involved?

HR: Provide residents information about the impact their water and energy choices make on the environment, and show them that the small changes they can make add up to a big difference for us all.

the standard, by ensuring that all compliant buildings incorporate sustainability across many areas.

But the NGBS also will allow owners and developers to customize their projects. “The National Green Building Standard is set up to be very flexible and allow builders to select among things that make sense to them,” says Cino. It also gives apartment properties credit for many of multifamily’s inherently green features: higher-density design, proximity to public transportation, small unit sizes, and infill, brownfield, greyfield, or mixed-use sites.

Last but not least, the National Green Building Standard was designed to be administered through the local building code process, rather than spending the additional time and money for the third-party approvals required for LEED certification. 

Government Evaluates Energy Star for Multifamily Buildings

Even the government is looking more closely at the energy efficiency and sustainability of apartment properties. For more than a year, the Environmental Protection Agency has been running a pilot study to research the feasibility and potential framework for a multifamily Energy Star program.

The pilot involves more than 15 buildings from New York to Oregon in both market-rate and affordable housing. Among the questions is how much more efficient than the current ASHRAE 90.1 standard should an Energy Star building be? While the pilot is working with a

target of being 20 percent more efficient, Ted Leopkey, a program analyst with the EPA, says the figure hasn’t been finalized since only two participating buildings have been completed so far. “We’re waiting to hear from the developers,” he says. “Is 20 percent cost-effective? Is that the right figure to use?”

Determining the requirements for an Energy Star multifamily building has been challenging, according to Leopkey. “What is unique to multifamily is this idea of the split incentive, where the people paying for the building [i.e., the developer or owner] are not necessar-

ily the ones receiving the benefits [i.e., the residents],” he says. “We want the Energy Star label to bring comfort and efficiency to the end user.” In multifamily, of course, that includes residents as well as owner/operators.

By late 2009, though, he predicts the agency will have the information it needs to decide whether to introduce an “Energy Star for multifamily” program nationally. But one issue has been decided: All Energy Star-labeled apartment buildings must use Energy Star appliances. “That’s one of the few requirements,” Leopkey says.

Going for the Green

Apartment firms build and renovate properties with sustainability in mind.

For Jeffrey S. Abramson, a partner at the North Bethesda, Md.-based Tower Cos., today's sustainable construction revolution is akin to the Apollo moon race in the 1960s. From his perspective, the first decades of the 21st century can set the stage for a more environmentally friendly future—if government and builders are bold enough.

"People want to know they can do something, and where they live isn't generally an option," says Abramson, whose company has developed more than 1.25 million square feet of green residential, commercial, and mixed-use space in the Washington, D.C. area. "They can buy healthier food, and they can buy fuel-efficient cars or take public transportation. But when it comes to their housing or where they work, the choices have been very limited."

Until now. The Tower Cos., which started practicing sustainable development in 1997, long before today's green wave, is just one innovative developer making green

apartments a reality today. Using thoughtful design, centralized systems, and smart financing, these companies are building sustainable apartment communities that help the planet, while maintaining the bottom line.

Take Tower's Blair Towns in Silver Spring, Md., for example. The 78-unit development was the nation's first LEED-certified multifamily community. With Energy Star washers, dishwashers, showerheads, and faucet aerators, the buildings use 30 percent less water than conventional developments. The structures conserve energy as well;

the thermal envelope, along with a highly efficient HVAC system and low-energy lighting, cut electricity use at Blair Towns by 20 percent compared to a conventional apartment building. Tower also used 40 percent recycled-content materials in construction, and the use of finger-jointed lumber, which uses short lengths of leftover lumber to make longer lengths of higher-grade lumber, essentially decreased the number of trees that would have otherwise been logged to create the wood for this project.

Abramson says boosting Blair Towns' energy efficiency added up to 5 percent of total project costs. But the firm has since brought that figure down to 1.5 percent on other developments. Expenses could



In Stamford, Conn., Jonathan Rose Cos.' Metro Green Apartments are green and affordable.

OPERATING INSTRUCTIONS

Simple steps to running more energy-efficient properties.

If you think your company can't make a difference, consider this: Buildings, both residential and commercial, account for 40 percent of U.S. energy use, according to the U.S. Department of Energy's 2007 Buildings Energy Data Book.

"We must come up with technologies [and] learn how to renovate our buildings in such a way that reduces energy demands," believes Jeffrey S. Abramson, a partner at the North Bethesda, Md.-based Tower Cos., which has a portfolio of new and renovated green properties.

For owners eager to cut their properties' energy use, an aggressive energy audit is the first step. Andrew Padian, director of multifamily services at Norwalk,

Conn.-based Steven Winter Associates, says ground-source heat pumps, solar panels, and green roofs may sound excitingly innovative, but significant energy savings can be achieved in existing buildings without a technical retrofit by paying attention to the fundamentals.

His recommendations include:

- Seal your building between floors and from the inside out. Leaks of treated air are a main source of wasted energy.
- Consume less water by installing aerators in bathroom sinks, showers and in the kitchen.
- Turn down the thermostat on water heaters; there's no need to keep water heated at 160 degrees.

- Get rid of those incandescent bulbs and skip fluorescent for LED lighting, which lasts 10 times as long as compact fluorescents.
- When tackling renovations, install more efficient insulation and new windows with low-E coatings.
- Carefully plan building controls. Check your HVAC equipment to make sure it's operating efficiently and know when systems go on and off.

"None of this is rocket science," Padian says, but addressing these areas will make any additional systems you choose to install more effective and cost-efficient. "Do the meat and potatoes first," he says, "and then you can have your dessert."

be reduced even more with government tax incentives for building green. “If the federal government helps, it would spur this economy, give jobs to everyone in the residential market, and keep money in America,” Abramson says.

While multifamily buildings can meet LEED standards, it can be difficult to do so. Henry Pye, director of resident services at Irving, Texas-based JPI, a developer that has built more than 60,000 units nationally, says one of the biggest hurdles has been LEED’s call for centralized mechanical systems. It’s a change that challenges the multifamily industry’s use of in-unit utilities.

“For many developers who are using unit-based utilities for most of their projects, they have to put in a great deal of investment just to get to the baseline,” Pye says.

So far, JPI has responded by changing the way it builds. Take 23 Eye at Capital Yards in Washington D.C., a 421-unit, mixed-use building with 15,000 square feet of retail space under construction. Instead of the traditional, in-unit approach, the building employs a central HVAC and hot water

system. Pye says extra upfront costs are expected to be offset by operational savings. “It’s fairly expensive to begin with, but it’s an operating dream,” he says. “The long-term cost of this just drops” over time.

New York-based Jonathan Rose Cos., a developer that specializes in building sustain-

“We’re creating a better product, saving money, and saving operating expenses.”

JONATHAN ROSE, JONATHAN ROSE COS.

able, affordable housing, took simple but effective steps toward energy efficiency in its 85-unit David and Joyce Dinkins Gardens building, the first green affordable building in Harlem.

Instead of air conditioning, the building employs passive ventilation, using pre-cast concrete floor planks with tubes running

through them. Exhaust air from the kitchen and bathroom exits each apartment through the planks, and apartments draw in fresh air from trickle vents at the windows. The passive system eliminates the need for ducts in the building and fans on the roof, saving space and energy.

Another smart idea: the gas-fired boiler lives on the roof, as opposed to its typical location in the basement. This shift eliminates the need for flues and fans inside the nine-story building, saving \$90,000 in construction costs while giving each unit a walk-in closet where the flues would have gone.

Overall, the improvements have a seven-year payback period, according to Jonathan Rose, the company’s president. “We’re creating a better product, saving money, and saving operating expenses,” he says.

Rose, an innovator of sustainable development for more than a decade, observes that when it comes to affordable housing, states and cities are giving preference to green buildings when allocating low-income housing tax credits. “Being green gives you a leg up in getting financing,” he says. 